GLOSSARY OF
ELECTRIC UTILITY AND RATEMAKING TERMS

Average System Rate

Total revenue received from retail customers divided by total kWh sold to retail customers. This rate includes adjustments that are excluded from Base Rates.

Base Rates

Rates without adjustments such as low-income discount, transformer ownership credit, power factor charge, and credit for interuptibility.

Billing Cycle

The period of time or the dates of occurrence for issuing periodic bills for service. Most residential customers are billed every other month and thus have a billing cycle of approximately 60 days. The billing cycle is also used loosely to refer to the customer's meter read cycle, i.e., the reading of the billing meter as opposed to the calculation of the bill.

Block Rate

A schedule of prices for electricity wherein the price per kilowatt-hour (kWh) or kilowatt (kW) changes at different levels of consumption or demand. For example, if the first 300 kWh of use per month are charged at one rate and all over 300 kWh are charged at a different rate, the rate schedule is a block rate.

Capacitor

A device to store an electrical charge. In the field of electric power transmission and distribution, capacitors are devices used for power factor correction and voltage regulation. Power factor correction improves the capability to deliver useful power (real power) to loads and voltage regulation helps to maintain constant service voltage.

Capacity

The maximum amount of electrical load which a device can carry at one time. Capacity is also used synonymously with capability.

Capacity Costs

Costs to the utility for provision of sufficient generation, transmission, etc., facilities to meet peak demand.

Connection Charge

An amount to be paid by a customer in a lump sum, or in installments, for connecting the customer's facilities to the supplier's facilities; or a charge for all the capital costs incurred in adding a new customer to the system. Connection costs, then, might include the costs of the service "drop" and the meter, or they might include the capital costs of all the generation, transmission, and distribution facilities that must be added to accommodate the new customer.

Cost Allocation Policies

Instructions or statements of direction guiding the apportionment of system costs to the rate classes. These policies are set forth in City Council Resolutions.

Cost of Service and Cost Allocation Report (COSACAR)

An analysis, by customer class, of the cost of providing electricity. The purpose of the study is to allocate costs to customer classes and provide the basis for developing rates for these customers.

Current

The amount of electrical charge flowing through a conductor, as compared with volts which is the force that drives the electrical charge. The movement of positively or negatively charged electric particles (as electrons) accompanied by observable effects such as the production of heat, a magnetic field, or chemical transformations.

Customer Charge

A basic charge added to each customer's bill to cover such costs as meter reading, customer accounting, and billing. The charge does not vary by the amount of electricity used.

Debt Service

Payments of interest and principal required to pay off a debt. City Light pays debt service to its bondholders.

Debt Service Coverage

Utilities usually set rates at levels that are expected to generate net revenues available to pay debt service that are in excess of projected debt service obligations. This safety margin is called "coverage." It is intended to reassure bondholders that, even if revenues or expenses deviate from their planned levels, the Utility will still be able to pay debt service. The degree of coverage is usually expressed in terms of a "debt service coverage ratio."

Declining Block Rate

A schedule of prices for electricity wherein the first "block" (X number of kilowatt-hours or kilowatts) used by a customer is priced at one rate and the next block(s) at successively lower rates. Historically this was a common type of rate schedule used when marginal costs were lower than average costs.

Distribution

The act or process of distributing electric energy from convenient points on the transmission system to the customers. Also a functional classification describing that portion of the utility facilities or plant used for the purpose of delivering electric energy from convenient points on the transmission system to the customers, or describing the expenses relating to the operation and maintenance of the distribution plant.

Demand

1) In an economic context, the quantity of a product that will be purchased at a given price at a particular point in time.
2) In a public utility context, the rate at which electric energy is delivered to or by a system, expressed in kilowatts, or kilovoltamperes, or other suitable units at a given instant or averaged over any designated period of time. City Light records demand averaged over a 15-minute interval for rate billing purposes for customers having demand meters.

Demand Charge

That portion of a customer's bill for electric service based upon the peak electric capacity (kilowatts) demanded or required by power-consuming equipment and billed under an applicable rate schedule.

Distribution System

That portion of an electric system used to deliver electric energy from points on the transmission or bulk power system to the customers.

Efficiency

Effective operation as measured by a comparison product with resources used to make the product. As applied to devices or systems such as motors or power plants, the ratio of output power or energy to the input power or energy expressed in percent. In economics, the relationship between output and cost or between benefits and costs. Often used by City Light to refer to rates that encourage energy conservation.

Elasticity

A measure of the responsiveness of demand (or supply) of a product to changes in price, income, or other factors. Elasticities are measured by the percentage change in demand (or supply) divided by the percentage change in the factor. Thus, a price elasticity of demand for electricity of -.5 means that a 20% increase in price will lead to a 10% fall in the demand for electricity (other factors remaining constant).

End Block

(Sometimes referred to as Tail Block.) The last block of energy in a block rate structure. See "Block Rate."

Energy

Electric energy is a measure of the amount of usage over time and is measured in kilowatt-hours or megawatt-hours.

Energy Charge

That portion of a customer's bill for electric service based upon the electric energy (kilowatt-hours) consumed and billed under an applicable rate schedule.

Financial Policies (Guidelines)

A set of policies stating the financial parameters the City wants to maintain. For City Light, a comparison of these parameters with the actual (or projected) financial conditions will indicate whether or not a rate increase is necessary.

Flat Rate

(1) A fixed charge for electricity for a streetlight, floodlight, or a fixed amount of energy consumption.
(2) A flat rate schedule is a method of charging for electricity wherein all electricity used by a given customer is priced at the same amount per kilowatt-hour or per kilowatt, regardless of the amount used. See Declining Block Rate, Inverted Rate.

General Service Rates

City Light's schedules of charges for electric service available to customers who do not qualify for residential or public streetlighting rates. Uses include lighting, water heating, interior space heating, cooling, the operation of mechanical systems (e.g., elevators), traffic signal systems, and industrial processes.

Interruptible Discount

A discount for customers that agree to interrupt their service at the utility's request during certain times when system demand or wholesale energy costs are very high.

Kilovoltampere (kVa)

1000 voltamperes. The voltamperes of an electric circuit are the mathematical product of the volt and the amperes of the circuit. This is the basic unit of measure of "apparent power" which includes "real power" (the rate of supply of energy, measured in kilowatts) and "reactive power" (a component of power necessary for motors and other magnetic equipment, measured in kilovars).

Kilovar-hours (kVarh)

"Kilovar" stands for kilovar-ampere-reactive: the unit of measurement of reactive power (the power supplied to most types of electromagnetic equipment, such as motors). Kvarh is a measure of that reactive power over time (hours).

Kilowatt (kW)

1000 watts. Watts and kilowatts are measures of the rate of electric energy use. A one-hundred-watt light bulb uses 100 watts of electricity. Ten such bulbs would use one kilowatt. See "Kilowatt-Hour."

Kilowatt-Hour (kWh)

A kilowatt-hour is a measure of electric energy equal to one kilowatt of power supplied to or taken from an electric circuit for one hour. A kilowatt-hour could be used to light a 100-watt bulb for 10 hours.

Lifeline Rate

An inverted rate schedule for residential customers wherein the first several hundred kilowatt-hours per month are priced at a low, below-cost rate. The amount of electricity priced at this low rate is the amount considered essential for basic use for lights, cooking, and refrigeration (see Inverted Rate). The term "lifeline" comes from telephone companies' proposals for offering low-cost, limited service to customers who would use the phone only for emergency purposes. The service would thus provide customers with a "lifeline." For City Light's lifeline rate, the revenue loss because of charging the low lifeline rate is recovered by raising the end block (or tail block) rate for consumption for all residential customers.

Load

The amount of electric power delivered or required at any specified point or points on a system. Load originated primarily at the power-consuming equipment of the customer.

Load Factor

The ratio of average demand, in kilowatts, over a stated period of time to the maximum demand in kilowatts occurring in that same time period. Load factor is a measure of the variability of the load over a period of time, usually a day, a week, a month, or a year. A load factor of 1.0 corresponds to a load that is "on" 100% of the time. A load factor of 0.50 means that the load has an average demand equal to 50% of the maximum demand.

Load Forecasting

The procedures used to estimate future consumption of electricity. These estimates are used in planning for generation, transmission, and distribution facilities; in calculating future revenue from the sales of electricity; in determining cost allocations for the various rate classes; and in assessing the impact on load of changes in policies or underlying conditions such as the level of employment in the region. Load forecasts are developed either to provide the most likely estimate of future load or to determine what load would be under a set of specific conditions; e.g., extremely cold weather, high rates of inflation, or changes in electricity prices.

Forecasting procedures include trending (extrapolating past trends into the future) and econometrics (where statistical relationships are established between electricity use and causal variables such as price, population, income, and employment and then used to forecast load based on projections of these causal variables).

Load Growth

The increase in the consumption of electricity from one point in time to another expressed either in absolute or percentage terms. The growth in energy and power demands by a utility's customers.

Marginal Cost

The change in total costs associated with a small change in quantity supplied; e.g., demand or energy.

> Long Run Marginal Cost: The change in cost associated with a change in output of one unit where costs are measured over a period of time sufficient to permit all factors of production, including capital, to change so as to produce the new level of output in the least cost manner.

Short Run Marginal Cost: The change in total costs when output is increased or decreased by one unit of output during which system capacity cannot be altered.

Marginal Value of Energy

See Value of Energy.

Megavoltampere (MVa)

1000 kVa. See "Kilovoltampere (kVa)."

Megawatt

1,000 kilowatts, or 1,000,000 watts. See "Kilowatt (kW)."

Metering

The various devices and associated equipment designed to measure or indicate and record the usage of electricity. The components of electricity commonly measured and recorded, and used in the calculation of bills for services rendered, are kilowatt-hours, kilowatts, and reactive kilovar-hours.

Mill

One mill equals one-tenth of a cent. The “mill” is frequently used as a monetary measure when referring to the cost of producing electricity. Ten mills per kilowatt-hour is equal to 10 dollars per megawatt-hour.

Minimum Charge

A minimum amount charged to each customer if the sum of other charges is lower than the minimum charge. The minimum charge is meant to cover all or a portion of customer costs. See Customer Charge.

Network

A system of interconnected circuit components. In power system usage, a system of transmission (or distribution) lines interconnected and operated so that any principal point has multiple sources of power. Seattle City Light’s downtown distribution system is a network system.

Operating Costs

Regularly occurring expenses associated with producing and distributing goods and services. The components of City Light's operating costs are customer service expenses, expenses of operating and maintaining facilities, administrative expenses, expenses of purchasing goods (e.g., power, professional services), and taxes. Frequently interest expenses and other similar items are also described as operating expenses.

Operating Revenues

The amounts billed by the utility for utility services rendered and for other services incidental thereto.

Peak Demand

The maximum demand imposed on a power system or component thereof during a specified time period.

Peak Load

The maximum electrical load consumed or produced in a stated period of time. It may be the maximum instantaneous load or the average load within a designated interval of time.

Power

The time rate of transferring or transforming energy. Electrically, power is expressed in watts, which is the product of applied voltage and resulting in-phase current. Power is the rate of energy production or transfer. See Energy.

Power Factor

The ratio of real or actual power (kilowatts) to apparent power (kilovolt-amperes) for any given load and time. Power factor is measured in percent and varies from 0 to 100%.

Rate Assistance Policy

A policy of the City of Seattle and the utility governing the implementation of assistance programs offered by the utility to low-income customers. Current rate assistance policies are contained in Resolution 30685, the 2004 rate policies resolution. This resolution calls for mitigation of the impact of the rising cost of electricity for low-income customers.

Rate Assistance Program

A program offered to low-income customers of City Light consisting of:

1. A discounted rate for low-income elderly customers (Schedule REC, RES, or RET) and for other low-income customers (Schedule RLC, RLS, or RLT)
2. A weatherization program (offered to all low-income customers with owner-occupied homes heated electrically)
3. A waiver of trouble call charges and account change fees.

Rate Base

The value, specified by a regulatory authority, upon which a utility (usually an investor-owned utility) is permitted to earn a specified rate of return. Generally, this represents the amount of property used and useful in public service and may be based on the following values or combinations thereof: fair value, prudent investment, reproduction cost, or original cost; and may provide for cash working capital, materials and supplies, and deductions for accumulated depreciation, contributions in aid of construction, and accumulated deferred income taxes.

Rate Design

Terminology used to denote those steps or principles used to plan or construct the rate schedules for the rate classes. This step follows the cost allocation step wherein determinations are made as to how much revenue to collect from each rate class. Rate design governs the relative level of the rate charges such as customer, energy and demand charges, block structure, and the components to be included in the schedules.

Rate Schedule

A statement of the electric rate and the terms and conditions governing its application. The electric rate part of the schedule generally consists of one or more of the following charge components: customer (or basic) charge, energy charge, demand charge, and minimum charge.

Rate Structure

The design and organization of billing charges for a group of customers. The rate structure may incorporate demand, energy, and customer or minimum charges; energy and/or demand blocks; seasonal differentiation; and/or other special features.

Residential Class

A customer, sales, and revenue classification used for load forecasting, reporting sales figures to the Federal Energy Regulatory Commission, and for cost allocations. Basically, this class consists of customers individually metered for electricity consumption in a residence.

Revenue Requirement

The revenue level necessary to financially sustain the operations of the utility; as commonly used at City Light, that part of the utility's required revenues that must be collected through retail customer rates. Utilities normally use one of two procedures for determining the revenue requirement: rate base/rate-of-return and cash. Under the rate base/rate-of-return method, revenues are set so that a designated rate of return is earned on the rate base, as measured by the difference between operating revenues and operating expenses divided by the total amount of invested capital. The "cash" basis, used by City Light, calculates the revenue required from customers as: 2.0 x debt service + power costs + operations and maintenance costs + other costs – other revenue (such as revenues from surplus power sales).

Run-of-the River

A term used in reference to hydro facilities with limited storage capability whose output over short periods of time such as a day or week is governed by the amount of stream flow over the same period of time.

Seasonal Rate

A charge for electricity that is imposed only during one season of the year; e.g., winter rates. A utility may have different rates for different seasons of the year because the cost of delivering electricity is higher during certain seasons.

Service Area

The land area that receives its electrical power supply from a utility. The City Light service area is located between Puget Sound and Lake Washington, and extends from Snohomish County on the north to Renton and South 160th Street on the south. It covers a net land area of about 131 square miles and has a population of 698,800 (2000).

Service Drop

The overhead conductors from the utility's pole to the customer's point of attachment.

Streetlighting Rates

City Light's schedule of charges for electric service available to all customers, including the City of Seattle, for dusk to dawn lighting of streets, alleys, and other public thoroughfares.

Surcharge

The imposition of an extra charge for a specified time period. For example, in 2001, to recover extraordinary power purchase expenses, the Seattle City Council imposed a

"surcharge" or "power cost adjustment" to electricity bills that raised the energy portion of the bills. City Light's seasonal rates, which are currently suspended, are sometimes referred to as a seasonal surcharge. Technically, this seasonal charge has been part of the normal rate schedule and is therefore not a surcharge. Under the Northwest Power Act, a surcharge is an additional sum added to the usual wholesale power rate charged to a utility customer of Bonneville to recover costs incurred by Bonneville due to the failure of that customer (or of a state or local government served by that customer) to achieve conservation savings comparable to those achievable under the Council's model conservation standards.

Surplus Energy

Energy that is not needed to meet a utility or marketing agency's commitments to supply firm or nonfirm power.

Tiered Rates

A rate structure consisting of a lower rate level for an established level of service to existing customers and a higher rate for deliveries that serve either additional requirements of such existing customers or the requirements of new customers. Also used synonymously with "block rate." See Block Rate.

Transmission

The movement or transfer of electric energy in bulk from a source or sources of supply to other principal parts of the system or to other utility systems.

Transmission System

An interconnected group of electric transmission lines and associated equipment for the movement or transfer of electric energy in bulk between points of supply and points at which it is transferred for delivery to ultimate consumers, or is delivered to electric systems of other utilities.

Undergrounding

The act or program for placing the overhead transmission or distribution system underground.

Value of Energy

A measure of the opportunity cost of electricity; a measure of the value of resources used to produce or save one more kWh. Value is measured by the cost of resources added (or postponed) to meet increments (or decrements) in load. The value of energy can be used in the benefit/cost assessment of new resources, in cost of service analysis, and as a design guideline in rate setting.

Water Year

A year that begins July 1 and ends June 30. It is used for resource planning because it coincides with the filling and emptying of hydroelectric reservoirs.

Watt

A unit of measurement of the rate of electric energy use. One watt is the rate of energy transfer equivalent to one ampere flowing under a pressure of one volt at unity power factor. See "Kilowatt."

Weatherization

The process or program for increasing the thermal efficiency of a building by such means as caulking of windows, weather stripping, and adding insulation to the wall, ceilings, and floors.